342 [462] [476] [824] (9) While the stones are being set and the uprights are being put on them, the women of the house and their female friends and relatives have brought in miscanthus grass and have begun making sheaves, tying each sheaf with a piece of grass. This goes on while the rafter poles are being nailed down. It is over this that the thatch is placed. The grass may be green or dry. In December it is in blossom, and when it is used, it gives the roof a snowy, fluffy appearance.

342 335 (10) A series of short rods of dwarf bamboo or dried miscanthus stalks is then prepared to fit over the checkerboard made by the interacting poles of the roof. The ends of these, which are about 7 feet long and 1/2 inch in diameter, are inserted into the braid of two lengths of rope about 5 feet long. These rods are placed at about 3 inch intervals. These frames are laid end down slope. They [284] are lashed to the poles and to other bracing material beneath. All this is the work of men. While some of them are on the roof, others [462] have begun nailing the siding. (See Fig. 6 for a sketch of the frames).

This is a very cheap lumber about 6 feet x 1 inch x 3/8 inch. The sides are boarded up like shingles except that the boards have uniform thickness. Each board overlaps the next lower one by 1/2 inch, a space of about 3 inches is left from the top of the upright poles to which the siding is nailed. The siding is sufficiently thin so that one side need not be thicker than the other.

(11) The triangular odd corners formed by the cross beams, the rafters and the center post are filled by fitted pieces instead of the rows of parallel rods used for the larger and more regular areas.

342 284 (12) The roof is now ready for sewing the thatch on. First, the women throw several sheaves of miscanthus on the roof. They are tossed by hand or pitched by a rude pitchfork made by lashing a short branch to a long pole to form a Y. This is the kishi. (Fig. 7). [413] One workman goes inside the dwelling. He has a pole about 6 feet long (a hari, the Japanese word for needle) pointed at the end with a hole near the point. (Fig. 8). Starting from the eaves and working up, the man on the roof unties the sheaves and spreads a layer of grass along the length of the roof. This layer is held in place by a horizontal pole placed over it. The man inside has threaded the needle with stout twine; he pushes the long needle with the twine up through the network of the roof. This is taken by the workman on the roof who feeds the needle with its twine back again. This sewing continues until the three layers, the checkerboard, the parallel rods which have been lashed to it, and the grass with the poles to hold it down have been finally sewed together. As each strip is completed the workmen move up the slope a little. The grass is about 3 1/2 feet long and about one foot is allowed loose on the end to overlap the layer below. That portion of the grass which is not free is tied and sewed very securely. There is much tugging, pulling, and grunting to make the knot as tight as possible.

000 (13) As the top is reached, another operation is necessary to cap

(13) As the top is reached, another operation is necessary to cap the peak of the roof. The two layers of grass require, when they meet, something to cap over them. This is done by laying down over the peak a rectangular frame of poles to form the base for the cap. The grass is then heaped up on this bed. It is held down by long rods of dwarf bamboo or miscanthus, forming a rough arch and running lengthwise. These rods with the grass underneath are sewn on to the ridge pole and the surrounding network of poles underneath with heavy twine or rope. Often also sharp sticks are placed cross ways. These are known as kansashi and derive their name from the pin used by Japanese women to fasten up their hair when they wear the traditional headdress. These sticks in fact perform this function; perhaps even better, they can be compared to the long hat pin. A thatched roof so constructed will last a long time, often 5 or 10 years, though it may be changed more often if damaged. Very often if the house has a thatch roof and the sides are made of a weak material, the house, including the roof is bound around with a heavy thick wire, cable or rope to protect it from typhoons. (Fig. 9 for a sketch of the roof). 342 335

The interior of the simple house which we have been describing is finished off in a simple manner with flooring and siding, also of cheap quality.

It may be added, parenthetically, that there are two different methods of laying the tile roof. In the hipped type, the tile slants from the roof to the eaves. The variant is the hipped type with a small gable. Occasionally, on the tile roof, an ornamental lion shaped terra cotta figure is placed for decorative purposes. 342 [532]

Tile is set over a foundation of long rods of small bamboo, dwarf bamboo or mature large size miscanthus. Rice straw is used to tie these rods together and to the frame. Mud, usually found in the yard and often containing considerable clay, is placed over this rod base and the tile is set so that the crests of the two pieces of tile which meet on the bottom are cupped by a tile on top. (Fig. 10).

5

Tools

Carpenters' tools are Japanese imports, although local blacksmiths make tools based on the Japanese design or repair them. The common tools are: 413 [439] [326]

(1) The plane (kanna in Japanese). The plane iron is set in a rectangular block of wood. In working wood, the plane is drawn toward the operator.

(2) A smaller plane

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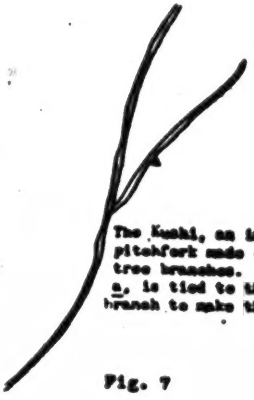
BUILDING A SIMPLE HOUSE

342

[413]



The Kushi, an improvised pitchfork made out of tree branches. The piece, a, is tied to the main branch to make the fork.

Fig. 7

The Hari

Fig. 8

[335]

CAPPING THE ROOF

Fig. 9

TILE SETTING

Fig. 10

413

(3) Chisels (nomi in Japanese) of various sizes.

(4) The hand saw (nokogiri in Japanese). There are two kinds: a single edge for cross cut, or a double edge, the second for rippling. The saw has a short blade and a long handle.

(5) A kind of hatchet (te-ono in Japanese).

(6) A rabbet plane (motoichi)

(7) The square (kanejaku)

(8) A gimlet, the large hand operated boring tool with a T shaped handle (ōkii ana in Japanese, bōto in Okinawan).

(9) The common brace and bit.

(10) The hammer, both claw and ball pein.

(11) The sumi tsubo (in Japanese). This is a reel with a string. As the string is drawn out from the reel, it passes through an India ink paste which is in a shallow flat dish situated at the point where the string comes out. The inked string is made taut along the line to be cut, snapped sharply, resulting in a black line along the desired cutting edge.

(12) The sumisashi (in Japanese), a short stick, dipped in ink, which is used for drawing a cutting line by hand usually with a square or rule to join longer lines made by the inked string.

(13) A plane for use on curved surfaces (the maruka in Japanese.)

(14) A sandshaker. When mortar is needed, an improvised sand-shaker may be constructed. Long poles are set up triguam fashion. One end of a wire is fastened to the apex of the poles, the other to the end of a wire net. The other end of the wire net is held in the hands. Sand is put on the mesh, and the device is then shaken so that the fine sand goes through. Long poles such as those used for the sandshaker or in building construction are called maruta (in Japanese).

[417]

6

Co-operation in Housebuilding

342
476

In Okinawa, co-operation among villagers in larger tasks is not conspicuous.[8] Housebuilding is an exception. Depending on the size, any number of people in a village may participate in building a house. If the house is small, only friends or immediate relatives are likely to assist. But if it is a large house, friends or neighbors may work one or two days, and relatives three or four days.

8 The nature of village co-operation will be discussed in Chap. 18

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common and indispensable tool. It has many uses, including cutting rice stalks at harvest, brush, and sweet potato tops. 412

3. A small sharp pointed hoe, with a short handle, used in sweet potato planting.

4. A two pronged hoe, the futamata, used mostly with sweet potatoes. The two pronged hoe is u[illegible] in softer soils. It is much more common in Matsuda than in the [illegible]uthern villages.

5. The three pronged hoe, the mutsumata, also used in sweet potato cultivation and in digging. These prongs, with skilful use, do not cut the potato. It is also much more common in Matsuda than in Hanashiro or Nagamo.

6. The common all purpose hoe (kuwa). It has a thick, solid, wide blade. The handle (about 3 1/2 feet long) is stout. The hoe is much sturdier than the ordinary American garden hoe.

7. Another hoe, longer and with a sharper angle between the handle and the blade. It has a variety of uses.

8. A long handled hoe with a heart shaped blade. It is used for making furrows.

9. An ordinary rake.

10. A cultivator and weeding tool for rice paddies. (The pole in back near the handle of the pitchfork is a prop to hold the tool upright for the picture). Only the more prosperous farmers possess this tool. Rice weeding is done almost entirely by hand. [434]

11. An ordinary pitchfork.

12. The plow (suki) 407

13. The harrow (maguwa), and

14. The waku, a hexagonal wooden frame used in laying out a rice field for transplanting. The last three tools or devices, which are not shown in the picture, will be described under rice cultivation. 413 ●

3

The Annual Work Cycle

The following charts show the annual work cycle by lunar month of two farmers, one in Hanashiro, one in Matsuda. The Western calendar equivalents for 1951-52 are shown below the lunar month. Because the lunar year is shorter, there is a gap, as the period actually covered is from February 6, 1951 to January 26, 1952. These materials are based on observation and conversation with the farmers concerned. 221 241 [805] [114]

243 by plowing.

There is water on the land when it is dug and harrowed, but it is not flooded. Not all rice land is harrowed. If it is not harrowed, the same result is accomplished by further hoeing. The harrow (magwa in Japanese, maga in Okinawan) is partly a home made tool and looks like a large clumsily constructed rake. Essentially it is a piece of timber with a row of strong spikes. This timber ordinarily is made of pine, but other woods may be used. Twelve nails, spaced at about two inch intervals, are driven into the board. These nails or spikes, about 8 sun (almost 10 inches long), square at the head, and with a sharp point, are made by a blacksmith for about Yen 20 each. The harrow is drawn by cattle; two shafts, with a yoke over the animal's head complete the simple implement. The plow is used in the preparation of the field, but far more commonly, the work is done with a hoe.

[407] [414] [306] [231] [435]

In the fall and winter planting of rice, the seedlings remain in the seed bed for about 40 days. In the summer, the period is only 20 days and may be less. The winter shoots are from 7-8 inches long, the summer shoots from 4-7 inches. The length is important, for if the seedlings are too long, losses in transplanting will, according to Hanashiro farmers, increase to almost half. In rare instances, due to adverse conditions, seedlings in the seed bed reach 15-20 inches in length. The losses here are said to be considerable in transplanting.

[462] The hoeing or the plowing and harrowing of a field is almost exclusively done by men. It is tiring, uncomfortable, and heavy work. It is much more common to see women hoeing the dry crop land. But transplanting is done by men, women, and the older children. A handful of seedlings in the bed is pulled out and bound with straw, grass, or a rush. There is a knack in pulling these out. They must be jerked quickly, but dexterously to avoid root damage. The bundle is tossed either into a central place or into the paddy field to be planted, if it is adjoining. In the latter case, the bunches are tossed to various parts of the paddy.

243 804 The seedlings are generally set out in rows. For this purpose, a string with small markers like buttons (shirushi) is used. These are 7 sun (about 8.4 inches) apart. Both the rows and the hills are 7 sun apart. Differences between rows and hills may vary considerably. In these localities, the distances were generally the same. The string is stretched from one end of the row to the other. Each seedling is planted at the interval indicated by the marker on the string. This method of planting is not universal. When there is little time, the seedlings might be scatter planted.

243 804 413 Another method of obtaining the checker-board pattern is by means of a home made hexagonal frame, the waku (literally, a reel or a frame). Each of the six sides is divided into nine squares, 7 sun on the side. The overall length is over six feet. The frame is set along the outside border, or at any desired starting point. When in place, the

bottom will imprint nine squares on the wet soil, and as it is turned another nine will be imprinted so that when continued the field is laid out in tiny squares. Three or four seedlings are planted on the corners of the square made by the waku. 243 804 413

Men operate the frame. As they turn it, making the square pattern on the damp soil, women follow behind with the seedlings. The frame has been in use in Matsuda for about fifteen years. An Okinawan agricultural school student is said to have invented it. It was not used in the southern villages studied, an interesting sidelight on the slowness of innovation even on a small island like Okinawa, for many farmers in the south expressed surprise at its use and had not heard of it. The device is helpful to those with large plots. In Matsuda, there are not many of these frames, but borrowing is frequent. [462] [176] [184] [426]

In contrast with recent introductions, such as the universal treadle thresher, the frame seems to be confined to one geographic area. The reason for this may be that the use of the thresher was actively encouraged by the Japanese as a successful time and labor saving device, while the frame was not similarly publicized. 243 804 [407]

Another method, a more traditional one, is to use a piece of wood the same length as the waku with seven little knobs and the two ends to give the nine spaces. This is the jiyogi. A piece of string stretched from one end of the field to the other is used to get a straight line along a row. When the planting has taken place along one row, the jiyogi is used to measure off one space between rows, the guide line is moved over and the operation repeated. This achieves the same purpose as the frame or the string with the markers. Men are more likely to handle these operations, the women following along with the transplanting. But the division of labor is by no means hard and fast. [462]

Care of rice until its maturity. Rice set out in squares is easier to cultivate, weed, and harvest. During its growth, it will be necessary occasionally to loosen the soil or to break up clods which escaped the initial working. There may be some temporary drainage of water off the fields at these times. 243

Weeding rice is usually done by hand, though once in a while a farmer has a hand cultivator. Weeding the rice field is an unrelenting job which is done about once a week. More attention is given to this task when the plants are younger. Weeding is worked in with other daily chores, and all members of the family may participate.

The rice is now allowed to grow with the hope that strong winds or a typhoon will not blow over the slender shoots or submerge them. If the rice is submerged when the shoots are still fairly young, they will gradually right themselves. Farmers say that attempting to upright the plants by hand will not work. The quality of rice once submerged is poor and sometimes half the rice in the plot is lost. If the submersion occurs when the plants are near maturity and the stalks are 20 or 25

316 425 435 (1951-52) is from Y300-400 per tsubo (about four square yards), much higher than ordinary agricultural land. The price varies with supposed quality. The good judgment of the purchaser is necessary for success. He must estimate the quantity of stone, its depth, whether there may be cracks, fissures, or black streaks below, and the effect of underground water as he cuts down deeper. In a year, a good stonecutter can remove stone from about four tsubo of land. If he has extra capital, he may hire help.

316 472 The types of employment found are either the single operator or the small operator who has one or more employees. The industry is not notable for large capital outlays, or many employees of a single operator. A simple partnership is common. There may be some division of labor, with the owner of the rights doing all the cutting, while a friend or relative who does this as a secondary occupation assists in the removal of the stone and in loading it on a horse cart. The operator who has a piece of land too large to work by himself may hire someone. The employee (yatoi in Japanese, ninpu in Okinawan) is paid according to skill: Y100 a day for a beginning 17 or 18 year old boy, Y150 to the experienced, [965] and Y200 to the worker who can do all phases of the work quickly and skillfully.

[804] Much depends on the nature of the stone being worked. This varies by locality and with moisture content. It will require 8 hours for a man to cut a six shaku (about six feet) length of hard rock 1 shaku [961] 2 sun (14.4 inches) deep, but he may be able to make three cuttings of moist or wet rock in the same period. Working time naturally varies with the strength and skill of the cutter. For this reason, piece [965] work payment is common. The employee, however, may work unused portions of the holdings, receiving two-thirds of the value of the stone cut.

3

Tools and Types of Stone Cut

● 413 Six tools are used in cutting and extracting the sandstone: (1) the hichi (Okinawan). This tool, about six feet long, resembles a crow bar, but has a sharp chisel edge for cutting the stone. (2) A sharp hand axe (ono in Japanese, yuki in Okinawan) for chipping and finishing, (3) the ishiyuki, a smaller axe, used like the yuki, for chipping and finishing but principally in shaping pyramidal stones (kenchi). The tool is also used to knock off the rough edges of the stone, where it has been split, an operation often performed by old men. (4) The kusukacha (Okinawan). This reminds one of a small light golf iron. It has a handle four or five feet long with a metal strip attached at an angle to one end. It is used to rake off chippings and dust that accumulate in the groove while the cut is being made with the long chisel. (5) Wedges (iya in Okinawan), and (6) sledge hammers are used to split off the stone after the cut has been made.

316 Methods of working with these tools are very simple. The surface dirt is cleared away until the stone to be cut is visible and clean.

A cutting line is then drawn over the surface of the stone. The worker straddles the cutting line, lifts the long bar up and down, making the cut along the line to the desired depth. It is slow and tedious work. 316

When the stone has been cut along a length of 6 or 9 feet and to a depth of about 14 inches, small holes along the bottom of the cut are made with a pick. These provide a hold for the wedges. Shavings or pieces of wood are put on either side of the wedges, three of which are used for a 6 foot length. The wedges are then struck seriatim with a sledge hammer and the stone is cracked across the bottom. When cracked, it is pried loose by the long bar, using the wedge as the fulcrum.

The cutting continues all day, or until the desired length and depth is reached for that particular cut. As the top layer is removed, the cutters go down deeper until they reach water, or until the seepage is too great to permit further cutting. Many times they cut 10 or 15 feet below the level of the surrounding land, stopping when the quality of the stone becomes poor. It may be black streaked, cracked, or have large fissures.

The long chisel is a relatively new addition to the tools of stonecutting. About 60 years ago, only the hand axe was used. This made the cut much rougher, compared with the clean cut of the bar chisel. After removal the block is rough on the lower edge. (Fig. 1) With gentle and slow chipping, this rough edge is smoothed off by the hand axe and the stone is ready for use. [413] ● 324

Three different types of stones are cut: (1) foundation stone (ishiji in Okinawan) used in housebuilding. This is the stone on which the poles supporting the eaves rest. At its base, the stone is about 16 inches square, at the apex about 14 inches, with a height of 9 inches to one foot. (2) Pyramidal stones with a square base (called kenchi both in Japanese and Okinawan). These are made from larger and imperfect cuttings or from odd shaped stones. They are chipped down and finished to the desired size. They are extensively used in breakwaters, and, occasionally in stone fences. When used as a breakwater, the stones are placed with the base toward the water, the apex being shoreward. The interstices may be filled with cement or clay. [333]

The block is the most important cut. It may be any length. When used in building construction, the blocks are generally about 9 feet long, one foot wide, and from 10-12 inches thick. These are called ishibashida (Japanese and Okinawan). In housebuilding stone, the width and the thickness are about the same, from ten inches to one foot on the side. In housebuilding the blocks are laid like bricks, so that joinings are not in the same vertical line. [333]

Cutters normally do not use the stone for personal use. More is to be gained by selling. This is done on an individual basis. 324 432

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needs supplementation. Hence, a farmer cannot buy so much as a fisherman. A rice farmer, if he is eligible at all, cannot purchase so much as a sweet potato grower. These stores fill a genuine need. They have alleviated hardship and done much to improve the monotonous pre-war diet. In the villages, they are a concrete reminder of direct American contact. There is not a store in every village, but each village has ready access to one.

The rural blacksmith takes care of the needs of farmers and stonecutters. One such shop in Nagano serves many villages in the Gushichan area. The forge is of simple construction. The air is blown by a sort of box bellows. The operator sits down, as if he were in a row boat, and by pushing and pulling the handle (which has a T-end grip like a hand pump) moves the piston horisontally back and forth. The blacksmith repairs agricultural and stonecutting tools and makes new tools, chiefly hoes and spikes for the harrow.

There are no good inns, restaurants or tea houses in the villages. In Hinatogawa a Japanese inn of rude construction and comfort caters to parties for the entertainment of visitors who have business with local people.

Getting a haircut or a bath may involve going to another village. Like the stores, barbershops are little social centers, especially during bad weather when villagers are not working and take the opportunity to have their hair cut.

2

Mutual Loan Groups

In China and Japan, mutual loan groups have had a long history. In essence, they are groups associated for the purpose of borrowing and lending money, the capital being derived from contributions of the membership. There is an element of chance when members bid against one another or draw lots for a loan.[2]

Each member of a loan group advances an agreed upon share. The total amount is then available as a lump sum to one of them as a borrower. The borrower repays principal and interest in monthly installments. The remaining members advance the same amount each on the following month to another borrower. In this way, there is a continuous cycle of lending

2 They are known variously as mo-ai (Japanese), mu-e (Okinawan) tanomoshi and yūrei (Japanese). Groups organized on a monthly basis are tsukikiyurei or tsukimoai (Japanese), and on an annual basis as nimu-e (Okinawan), ninmo-ai (Japanese). At present there are no annual groups because of uncertainties regarding the future value of money. Now loans are normally for a 10-12 month period.

164 753 515 blame tooth decay on the brown sugar. It may be diet or water. Use of tooth brushes varies considerably with individuals and families. Okinawans

515 511 The standard of cleanliness in Okinawan homes is not high, but this cannot be ascribed to indifference. One should constantly bear in mind that it is easy to keep clean with plenty of soap, showers, hot running water, washing machines, and flush toilets.

9

Native Medicine

208 The native medicine has already been referred to in the discussion of fish and wild plants used as medicines. Their use has declined with growing reliance on manufactured drugs and pharmaceuticals.

757 759 The golden needle (kinbari) is still used by rural doctors (yabu) in the treatment of inflamations of the joints and rheumatism. There was one such doctor in Hinatogawa, but ordinarily he is called only when real medical attention is not available.

[913] The needle is scarcely thicker than a horse hair. It is encased in a shaft about 2 3/8 inches long. The grip or base of the needle is 3/4 of an inch long and the needle itself 1 7/8 inches. The needle is tapped and gradually worked into the affected part, and a length from 3/4 to one inch is broken off and allowed to remain in the body and circulate to effect its curative powers.

Blood letting is still practiced, often by the individual himself. Thin cuts are made with a razor, generally on the forehead above the eyebrows and slanting toward the bridge of the nose. This is done to relieve headaches and general pains and may be resorted to after aspirin has failed to relieve a headache. On a close look, one can often observe the slight, thin, long scars, which look like tiny wrinkles, resulting from these slashes. During the operation, a sake cup is held up to the place being cut. The cup may even have a little sake in it. When done by a native doctor, the blood may be sucked through a small tube and allowed to drip into a sake cup.

Cauterisation using mogusa (moxa) also is still common. One can frequently see scar tissue, the results of burning mogusa on the flesh, usually in the area around the wrist. Mogusa is applied with glowing charcoal sticks, burning thread, or tobacco. It is used for no specific complaint, but as a counter-irritant cureall for a wide variety of ailments.

[386] Acupuncture apparently is little used now. Formerly an area was pricked with a needle, or a series of needles brought to a point, and an indigo dye applied. One can observe these round spots, circles of dots, occasionally on the shoulders and the backs of older people. These should not be confused with tattooing.